## FRAUNHOFER GESELLSCHAFT... e.V. 039PCT 0897

## Patent Claims

- Vegetable protein preparation, producible by extraction from the seeds with a solvent, characterised in that the extraction is implemented in the presence of a lipase, the residual phospholipid content being ≤ 0.4%.
- 2. Protein preparation according to claim 1, characterised in that a pre-extraction and at least one protein extraction are implemented.
- 3. Protein preparation according to claim 1 or 2, characterised in that the lipase is added in excess during the protein extraction.
- 4. Protein preparation according to at least one of the claims 1 to 3, characterised in that a deoiling is implemented prior to the protein extraction by pressing and/or extraction with an organic solvent or CO<sub>2</sub>.
- 5. Protein preparation according to claim 4, characterised in that the organic solvent is selected from n-hexane and iso-hexane.
- 6. Protein preparation according to at least one of the claims 1 to 5, characterised in that a neutralisation and drying is effected after the last protein extraction.
- 7. Protein preparation according to claim 6, characterised in that the neutralised protein preparation was subjected to a thermal treatment prior to drying.

- 8. Protein preparation according to at least one of the claims 1 to 7, characterised in that the lipases are selected from glycerol ester-hydrolases, triacylglycerol-lipases, triglyceride-lipases, triglycerol-acyl hydrolases (EC3.1.1.3).
- 9. Protein preparation according to at least one of the claims 1 to 7, characterised in that the proteins are selected from protein- and oleaginous seeds, cereals and leaf proteins.
- 10. Protein preparation according to claim 9, characterised in that the proteins are selected from soya, rape, lupin, mustard, flax, coconut, sesame, sunflower, groundnut, cotton, rye, wheat, maize, rice and alfalfa.
- 11. Use of the protein preparation according to at least one of the claims 1 to 10 in the food and animal feed industry.
- Method for producing a vegetable protein preparation by extraction from the seeds with a solvent, characterised in that the extraction is implemented in the presence of a lipase.
- 13. Method according to claim 12, characterised in that a pre-extraction and at least one protein extraction are implemented.
- 14. Method according to claim 12 or 13, characterised in that the lipase is added in excess during the protein extraction.
- 15. Method according to at least one of the claims 12 to 14, characterised in that a deoiling is implemented prior to the protein extraction by pressing and/or extraction with an organic solvent or CO<sub>2</sub>.

- 16. Method according to claim 15, characterised in that the organic solvent is selected from n-hexane and iso-hexane.
- 17. Method according to at least one of the claims 12 to 16, characterised in that a neutralisation and drying is effected after the last protein extraction.
- 18. Method according to claim 17, characterised in that the neutralised protein preparation was subjected to a thermal treatment prior to drying.
- 19. Method according to at least one of the claims 12 to 18, characterised in that the lipases are selected from glycerol ester-hydrolases, triacylglycerol-lipases, triacylglycerol-acyl hydrolases (EC3.1.1.3).
- 20. Method according to at least one of the claims 12 to 18, characterised in that the proteins are selected from protein- and oleaginous seeds, cereals and leaf proteins.
- 21. Method according to claim 20, characterised in that the proteins are selected from soya, rape, lupin, mustard, flax, coconut, sesame, sunflower, groundnut, cotton, rye, wheat, maize, rice and alfalfa.